

Bedding (acre)

Definition

Plowing, blading, or otherwise elevating the surface of flat land into a series of broad, low ridges separated by shallow, parallel dead furrows.

Scope

This standard applies to the practice of shaping the land surface as an initial construction operation or by farm equipment during farming operations.

Purpose

To provide improved surface drainage at relatively low cost by establishing adjoining parallel beds or land running in the direction of the available natural slope. This is accomplished by moving soil toward the center of beds to form a series of ridges and dead furrows (troughs) that will minimize water pondage, provide gradients for removing runoff, permit efficient operation of tillage and harvesting equipment, or eliminate sources for mosquito production.

Conditions where practice applies

This practice applies to poorly drained areas of flat to nearly flat land usually having slowly permeable soils. It is generally applicable where land use does not warrant more intensive drainage. Soils must be of sufficient depth to provide a satisfactory root zone after bedding.

Design criteria

Bedding shall run in the direction of the available land slope so that drainage can be provided without causing harmful erosion. Bedding is usually established without detailed engineering surveys. Beds shall be shaped and cross-row ditches provided where required to provide free movement of water from the crown to the dead furrow. Crowns shall provide a cross slope of not less than 0.3 percent.

Crown height, width, and maximum length of beds shall be determined on the basis of site conditions.

Dead furrow channels may be shallow and side slopes steep or flat, based on the depth of the soil, crops grown, and local construction and maintenance methods. Dead furrows shall be graded toward an outlet.

An outlet, natural or constructed, must have sufficient capacity and depth to provide for removal of water from dead furrows.

Plans and specifications

Plans and specifications for beddings shall be in keeping with this standard and shall describe the essential requirements for properly applying the practice to achieve its intended purpose.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

TECHNICAL GUIDE
SECTION IV

NATIONAL
SUPPLEMENT
310-NS-1

Bedding (acre)

Planning considerations for water quantity and quality

Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Potential for a change in rates of plant growth and transpiration because of changes in the volume of soil water.
3. Effects on downstream flows or aquifers that would affect other water uses or users.
4. Effects on the relation of the soil surface to the water table to ensure a suitable rooting depth for crops.

Quality

1. Effects on erosion and the movement of sediment and soluble and sediment-attached substances carried by runoff.
2. Effects on the use and management of nutrients and pesticides and their effect on surface and ground water quality.
3. Effects on the movement of dissolved substances below the root zone and to ground water.
4. Effects of water levels on soil processes such as nutrient use by the plant.
5. Effects on wetlands or water-related wildlife habitats.
6. Effects on the visual quality of downstream water.